Amendments to the Specification:

Please amend the specification as follows:

On page 1, paragraphs beginning at line 14 and ending on page 3 at line 26, amend as follows:

Conventionally, a router disposed in the ~~TCI~~TCP/IP network of this type (such as intranet, internet, extranet, hereinafter only referred to internet) retrieves a routing table from a destination address to read out a data transmission path to a transmission destination for transmitting a packet to the read out transmission path. In this case, packet transmission cannot be carried out until completion of routing retrieval. Therefore, a transmission period of the packet is significantly variable depending upon a retrieval period of the routing table.

In the recent internet performing packet transmission, a best effort type service is typical. The best effort type service is a service to do the best effort for accomplishing ~~a process as~~processing considering the entire network but does not guarantee end-to-end service. Therefore, in the worst case, service cannot be provided. The recent internet is apt to ~~beyond a~~exceed traffic in the existing wired and radio telephone services. As a result, even in the internet which has provided the best effort type service conventionally, a service quality (Qos: quality of service) comparable with the conventional type communication network is ~~about being~~required to be realized.

In such TCP/IP communication network, guarantee for delay of packet transmission is becoming important. Particularly, in the case of transmission ~~a~~ telephonic speech (talk signal) in a form of a packet, clarity of telephonic conversation can be degraded to make delay unacceptable if end-to-end delay becomes in excess of about 100 msec. Accordingly, it becomes necessary to restrict the delay of packet transmission in the TCP/IP communication network to be a predetermined value or less. In such TCP/IP communication network, one of the important causes of packet transmission delay is the routing process in the router. Accordingly, when a processing amount in the routing process in the router is large (upon a high load condition) and when the routing process cannot be performed at high speed, it becomes impossible to restrict the delay to be less than or equal to the predetermined value.

Various proposals have been made for the routing process of this kind. For example, in Japanese Unexamined Patent Publication No. Heisei 4-183044, for "Routing Control System with Modification of Transmission Source Data", correction of a user data of a transmitted PUD (Protocol Unit Data) can be corrected only by transmitting a user data modification PUD within a transmission holding period when correction becomes necessary after transmission of PUD containing the large amount of user data by a transmission source end system or when the correction amount is small.

On the other hand, in Japanese Unexamined Patent Publication No. Heisei 6-244867, for "Back-up Route Connection Stand-by Routing System", connection of a backup path is ~~waited~~ conditioned upon the occurrence of a failure in a junction line. ~~By this~~In this method, real-time routing depending upon the condition of the back-up path is enabled, and in conjunction therewith, traffic and node load in the network can be reduced. Furthermore, by restricting increase of the number of junction stages, the possibility of abandonment or dropping of ~~packet~~ packets can be reduced. In addition, by preventing the back-up path from unnecessarily opening, the communication period can be reduced to reduce wasting of communication cost.

As set forth above, in the prior art, delay in packet transmission due to the routing process in the router is caused in the communication network. If the amount of routing process in the router is large for high load and thus the routing process cannot be executed at high speed, it becomes impossible to restrict the delay for internet telephone communication to be less than or equal to the allowable predetermined value.

On page 12, paragraphs beginning at line 19 through page 13, paragraph ending at line 17, amend as follows:

The routing processing system includes a packet accumulating portion 10 for accumulating one or more input packets, a packet parsing portion 20 transmitting a signal identifying an application (application identification signal S2) corresponding to a packet read out from the packet accumulating portion 10 on the basis of a read signal S1 to a timer value

determining portion 50 and performing parsing of the application for reading out a destination address S3.

On the other hand, the routing processing system has a packet waiting portion 30 for waiting a packet from the packet parsing portion 10 and outputting one packet to a packet transmitting portion 40 after inputting of a packet output designating signal S4 from a routing retrieving portion 70, the packet transmitting portion 40 outputting the packet output from the packet waiting portion 30 on the basis of a transmission destination designating signal and a next process designating signal (packet output designating signal S4) from the ~~touting~~ routing retrieving portion 70, to a packet output terminal corresponding to a predetermined path, and a timer value determining portion 50 outputting a preliminarily provided (written) timer value S5 to a monitoring timer portion 60 and outputting a next process code S8 which will be discussed later, to the routing retrieving portion 70, corresponding to the application identified by the packet parting portion 20 (the application identification signal S2 output therefrom).

On page 14, paragraphs beginning at line 10 and ending at page 15, line 3, amend as follows:

In Fig. 1, the packet accumulating portion 10 sequentially ~~accumulate the~~accumulates input ~~packet~~ packets from a packet transmission path. The packet accumulating portion 10 accumulates one or more packets therein, and feeds one packet to the packet parsing portion 20 when the packet waiting portion 30 outputs the read out signal Si.

In Figs. 1 and 2, the packet parsing portion 20 reads out a content of a header of the IP packet. From the format, judgment is made what application will use the packet. For example, a number in a ~~designation~~ destination port A in Fig. 2 stored in a TCP header, is one data for making judgment what is the protocol higher than or equal to a layer 4 in the packet transmission, normally. With this data, the application is identified.

As the application to be the object for Identification, an Internet telephone protocol (such as NetMeeting, InternetPhone, CU-SeeMe, Net2Phone, CoolTalk, FPPhone, HTTP, RealAudio), Telnet (service/program for remote login to a computer of the TCP/IP

communication network), FTP (File Transfer Protocol: file transfer protocol In the TCP/IP communication network) have been known.

On page 15, paragraph beginning at line 27, amend as follows:

In Figs. 1 and 2, a timer value determining portion 50 determines the timer value S5 and the next process code S8 on the basis of the application identification number when the application identification signal S2 indicative of the identification number of the application in ~~toe~~ the format content of the IP packet shown in Fig. 2 which is output by the packet parsing portion 20. The timer value S5 is fed to the monitoring timer portion 60 and the next process code S8 is fed to the routing retrieving portion 70. For example, in the internet telephone communication, an end-to-end delay period has to be less than or equal to 100 msec. If a delay longer than this is caused, telephonic conversation becomes unacceptable for lack of clarity. Accordingly, if delay in excess of 100 msec is caused, it becomes meaningless to transmit the packet. Thus, such a packet is abandoned.

On page 17, paragraphs beginning on line 24 and through page 19, line 20, amend as follows:

The timer value S5 is a value defined for -performing a particular abnormal process when the routing retrieval cannot be completed within the period designated by the value. Namely, a process is always terminated within the period designated by the routing retrieval period (timer value S5) irrespective whether the result of the process is normal or abnormal.

When the retrieval process in the routing retrieving portion 70 cannot be completed within the period designated by the timer value S5, it designates how the packet to be the object for the routing process is to be processed. In the shown embodiment, the process is defined as follow. When the value of the next process code S8 is "0", the packet is abandoned. When the value of the next process code S8 Is "1", the packet is fed to the default path. The default path is a predetermined path to transfer the packet when it cannot be determined where the packet is to be transferred.

When the timer value S5 output by the ~~terminal~~ timer value determining portion 50 is input, the monitoring timer portion 60 outputs the time out signal S6 to the routing retrieving portion 70 when the period determined by the ~~terminal~~ timer value S5 is measured. On the other hand, when a timer stop signal from the routing retrieving portion 70 is not input, the monitoring timer portion 60 does not output the time out signal S6 until the timer value S5 is input from the timer value determining portion 50.

The monitoring timer portion 60 can be realized using the counter. In this construction, the timer value S5 is stored in the counter to decrement the count value by one per expiration of the given period. When the count value becomes 0, the time out signal S6 is output.

Next, if the destination address S3 is input from the packet parsing portion 20, or when both of the destination address S3 and the next process code S8 from the ~~timber~~ timer value determining portion 50 are input, the routing retrieving portion 70 initiates an output path determining process. ~~By~~ In connection with information for routing retrieval, a routing table is normally established by a routing protocol or so forth, each an entry corresponding to the best matching with the destination address S3 is selected among the routing table to determine the output path. As a structure and retrieving method of the routing table concerning the determining process of the output path, a known structure and method may be used.

In the routing retrieving portion 70, when the time out signal S6 is input from the monitoring timer portion 60 during the determining process of the output path, a number preliminarily determined as a vacant number or a number designating the default path is output as the transfer path number S6. The next process code S8 received from the timer value determining portion 50 as the process code Sil in advance, is output to the packet transferring portion 40.

On page 21, paragraph beginning at line 12, please amend as follows:

The packet transfer portion 40 operates to abandons the packet or to select any one of a plurality of packet output lines on the basis of the transfer path number SlO and the process

code Sib from the routing retrieving portion 70 (steps S6,S1S8). The process code is to determine whether the packet is to be abandoned or transferred, the transfer path number Sb is to determine which packet output lines is to be selected upon transferring the packet.

On page 22, paragraphs beginning at line 15 and ending at line 18, amend as follows:

On the other hand, Fig. 6D shows an embodiment, in which a flash memory is employed as the random access memory 50b of the timer value determining portion 50 shown in Fig. 3 or the content-addressable memory 50Aa shown in Fig. 4, and an ATM transmission device 111 as an external storage data modifying and communicating device for rewriting the timer value S5 from an ATM communication ~~next work~~network (such as a wide band (B) ISDN) 110. The ATM transmission device receives the rewriting designating packet from a host unit or an ATM communication terminal 112 to perform rewriting of the timer value S5. It should be noted that other communication network may be employed in place of the ATM communication network.

With the construction illustrated in Figs. 6A to 6C, setting of the timer value adapting to respective application becomes possible to facilitate modification the allowable period for achieving satisfactory clarity of telephonic conversation upon modification transmission standard of the TCP/IP communication network, or use condition (network establishing condition) in a service provider. Also, sufficient freedom in ~~designing~~ designation associated with variation of the standard of the TCP/IP communication network can be obtained.

As can be clear from the foregoing discussion, with the routing processing method in the packet transmission and the system therefor in accordance with the present invention, when the routing process is not terminated even after exceeding of the preliminarily set timer value for the application identified by the input packet, the packet is abandoned adapting to the identified application or the packet is transferred to the preliminarily determined route.

On page 23, paragraph beginning at line 25, please amend as follows:

A8

Accordingly, for the application requiring small delay and abandonment rate of the packet is less important, the time value is set at a small value to restrict the delay amount to a small value. As a result, process period required for routing process can be reduced.

On page 24, paragraph beginning at line 10, please amend as follows:

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As a result, the timer value can be set adapting to each application. In particular, ~~associating with~~concerning a modification of the transmission standard of the TCP/IP communication network or establishing condition, the period to obtain clarity of telephonic conversation can be modified easily. Furthermore, a freedom in designing the system construction can be enhanced.